



Savannah River Site



*A presentation to the
SRS Citizens Advisory Board*

Facilities Disposition and Site Remediation Committee

D-Area Operable Unit Early Actions Status Update

August 16, 2011

Karen Adams

Project Manager

Area Completion Project, DOE-SR

**Office of the Assistant Manager for Infrastructure &
Environmental Stewardship**

Tom Kmetz

Project Manager

Savannah River Nuclear Solutions, LLC



Purpose

- **Provide a status update to the Facilities Disposition and Site Remediation Committee as requested, and in accordance with the Committee's Work Plan.**

Background



- **Site of heavy water production and rework facilities between 1952 and 1982.**
- **Completed characterization of concrete pads, sumps, process sewers, soil, and vadose zone.**
- **Constituents of concern identified are solvents, tritium, metals, polychlorinated biphenyls, low pH and pesticides.**

Early Actions

- **Bubble Tower Subunit**
 - Solvent contamination
- **Moderator Facility Subunit**
 - Tritium contamination in concrete slabs and soil
- **Powerhouse Subunit**
 - Waste Oil Facility: Arsenic contamination
 - Coal Pile Runoff Basin: Heavy metals, arsenic and low pH
- **D-006 Outfall**
 - Pesticides and polychlorinated biphenyls

Status, Bubble Tower Subunit



- Eleven soil vapor extraction wells equipped with solar-powered MicroBlowers were installed to address solvent contamination in the subsurface. Due to the shallow depth (~10 feet), a barometric barrier (impermeable membrane) and vegetative soil cover was also installed.
- Operation of the passive soil vapor extraction system started November 2010.

MicroBlower and Solar Panel Close-up



Status, Moderator Facility Subunit



- Starting March 2009, constructed four Thermal Detritiation Units to treat 1,650 cubic yards of D-Area concrete and soil contaminated with tritium.
- Thermal detritiation is an innovative technology that uses resistance heaters to drive off tritium from contaminated media (1500°F concrete and 212° F soil).
- Treatment of the inventory contaminated concrete and soil was completed July 22, 2011. The treated material was returned to the excavated areas.

Thermal Detritiation Unit Schematic

LEGEND



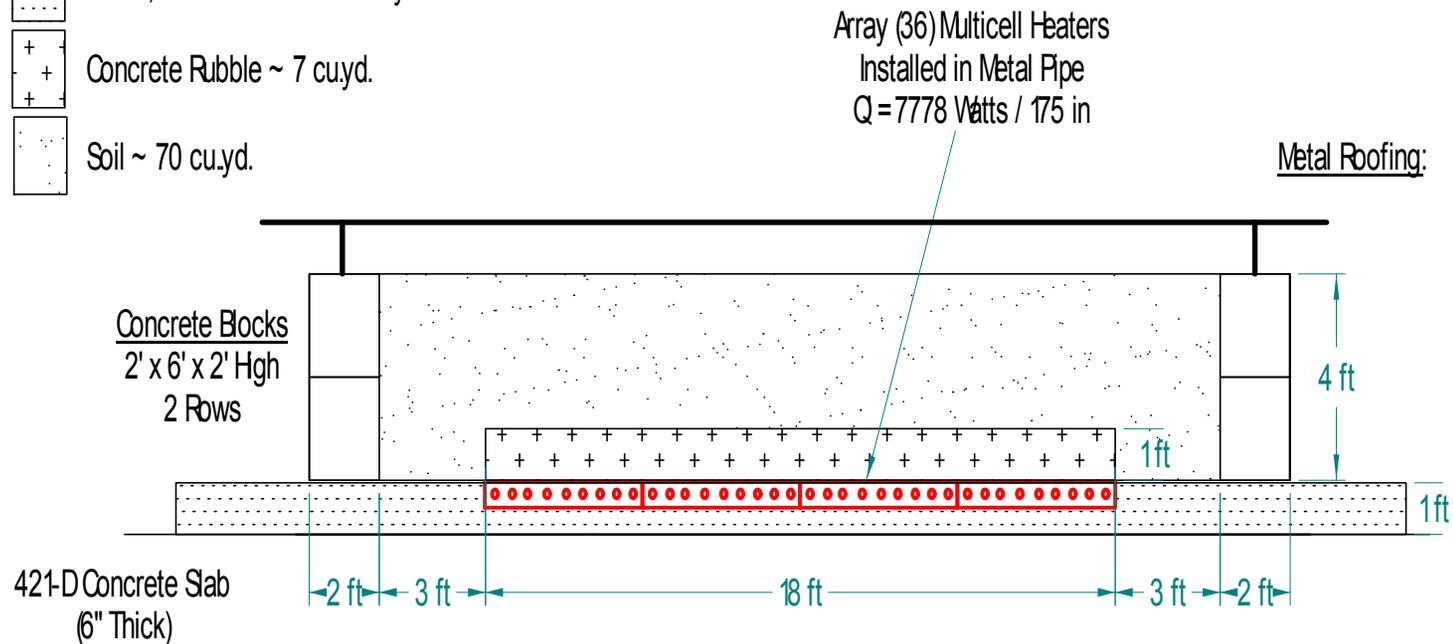
Clean, Coarse Gravel ~ 14 cu.yd.



Concrete Rubble ~ 7 cu.yd.



Soil ~ 70 cu.yd.



Status, Coal Pile Runoff Basin, Waste Oil Facility and D-006 Outfall Waste Units



- Removed contaminated sediment/soil from the D-006 Outfall stream channel (pesticides) and 484-10D Waste Oil Facility (arsenic) and consolidating the materials in the Coal Pile Runoff Basin (arsenic, metals and low pH) and will install a vegetative soil cover over the closed portion of the basin.
- Field work started April 17, 2011. On target to finish September 23, 2011.

Cost

- **D-006 Outfall: \$1,000,000**
- **Moderator Facility Detritiation: \$10,000,000**
- **Coal Pile Runoff Basin &
Waste Oil Facility: \$5,600,000**
- **Bubble Tower: \$1,723,000**
- **Regulatory Documents: \$846,000**

Early Action Status Update Summary

- **Three Early Actions at the D-Area Operable Unit were funded by the Recovery Act. These Early Actions accelerated remediation by six years.**
- **To date, two of the three Early Actions have been completed and the last one will be completed on schedule.**



Schedule

- **Submit Rev. 0 Early Action Land Use Controls Implementation Plan: 7/25/2011**
- **Submit Rev. 1.2 Early Action Record of Decision: 8/28/2011**
- **Implement Early Action Land Use Controls: 9/1/2012**
- **Submit Rev. 0 Early Action Post-Construction Report: 12/1/2012**